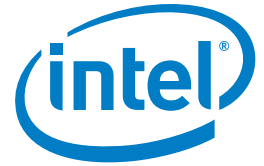CASE STUDY
Intel® Xeon® processor E5 and E7 families
Intel Xeon processor 5600 and 7500 series
Financial Services
Performance for Data-Intensive Computing

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Investing in a Scalable Infrastructure

Moody's moves to Intel® Xeon® processors for its Investors Service infrastructure to increase performance, enhance scalability, and reduce expenses by up to 25 percent

The credit ratings, research, and risk analysis provided by Moody's Investors Service play a critical role in helping investors navigate the quickly changing waters of financial markets. To improve the efficiency and scalability of the infrastructure used for mission-critical ratings and analysis applications, the IT group decided to migrate workloads from proprietary environments to Linux* environments running on Intel® Xeon® processors. By adopting Intel Xeon processors and open-source products, the company is achieving better performance, gaining easier, more cost-effective scalability, and reducing costs.

Moody's

"There has been much greater innovation among x86 platform vendors and in the open-source community than among proprietary platform vendors. It was clear that we could achieve better price/performance and scalability by moving to a Linux* environment running on Intel® Xeon® processors."

– Brian Clark,
CTO,
Moody's Corporation

CHALLENGES

- **Improve performance.** Accelerate the delivery of financial ratings and information to Moody's analysts and to the public, processing even large-scale data volumes quickly.
- **Increase scalability.** Accommodate rapidly changing needs, rising data volumes, and the introduction of new services by creating an infrastructure that can scale efficiently and cost-effectively.
- **Control costs.** Eliminate excessive hardware and software licensing costs of proprietary environments.

SOLUTION

- **Migrate to a Linux* environment running on Intel® Xeon® processors.** The IT group is migrating mission-critical workloads from RISC-based systems and other servers to Linux environments running on Intel Xeon processors.

TECHNOLOGY RESULTS

- **Faster results.** The new infrastructure helps deliver ratings, analyses, and other information to analysts and the public faster than before, improving analyst productivity and increasing the value of Moody's services to the public.
- **Cost-effective scalability.** Moody's can scale its environment more incrementally and cost-effectively, enabling the company to be more responsive to changes that affect financial markets.

BUSINESS VALUE

- **Significant savings.** Moody's anticipates that moving to Intel Xeon processors and open-source products will enable the company to save 10 percent of infrastructure expenses at the end of the first year and up to 25 percent of expenses after the migration is complete.

Moody's Investors Service requires a robust IT infrastructure to produce credit ratings, research, and risk analysis covering more than 110 countries, 11,000 corporate issuers, 22,000 public finance issuers, and 94,000 structured finance obligations.[1] "We acquire a large amount of structured and unstructured data, run our proprietary ratings applications, fine-tune data according to our analysts' needs, and ultimately generate information that is used by the Moody's Analytics group and by the global

financial community," says Brian Clark, chief technology officer of Moody's.

After years of company expansion, the Investors Service IT infrastructure had grown into a complex collection of approximately 2,000 RISC-based systems and other servers that was difficult to manage. "We expanded our infrastructure to support the unique technology needs of each line of business. But in doing so, we created an infrastructure with numerous,

Intel® Xeon® processors deliver the price/performance for the new ratings infrastructure

disparate systems and a large amount of duplicated data," says Clark. "We wanted to reduce complexity, consolidate resources, and achieve consistency in processes and technology by standardizing on a single operating system and hardware platform."

In re-architecting the infrastructure, scalability was key. "The data stores continue to grow, but scaling the RISC infrastructure would have become very expensive, very quickly," says Clark. "We wanted to select a single platform that would let us scale the infrastructure incrementally and cost-effectively."

The IT group realized that migrating workloads to a new platform would be a large-scale undertaking, but it was essential for improving performance and scalability, and reducing costs. "Our existing infrastructure was not sustainable," says Clark. "We needed to make the investment now to stay ahead of the curve."

Standardizing on Intel Xeon Processors

The Moody's IT group decided to migrate all of its ratings, research, and analysis workloads to servers equipped with Intel Xeon processors. "There has been much greater innovation among x86 platform vendors and in the open-source community than among proprietary platform vendors," explains Clark. "It was clear that we could achieve better price/performance and scalability by moving to a Linux environment running on Intel Xeon processors."

So far, Moody's has replaced approximately 1,000 of its 2,000 servers with systems based on Intel Xeon processors. The first servers are equipped with the Intel Xeon processor 5600 and 7500 series, but as Moody's continues to deploy new servers,

it will use systems based on the Intel Xeon processor E5 and E7 families. "We always strive to deploy the latest architecture to take advantage of new advances in processing technology, and with Intel we know we can achieve better performance with each new processor generation," says Clark. "The Intel Xeon processor E5 and E7 families will help us maximize price/performance for our infrastructure."

The new infrastructure runs VMware vSphere* virtualization software, a Linux operating system, and a variety of mission-critical, in-house applications for ratings, research, and analysis. "The Intel Xeon processors give us the performance and memory capacity we need to consolidate applications through virtualization," says Clark. "By running existing workloads in a smaller footprint, we can free up resources to introduce new business capabilities."

Delivering Superior Performance

The new environment is helping boost productivity among Moody's analysts by delivering data faster than before. "We don't want to keep analysts or the public waiting for information," says Clark. "As we migrate to the new platforms based on the Intel Xeon processor, we can generate reports for analysts, auditors, and others faster than before, even when we are working on very large ratings. We are increasing the productivity of analysts and delivering information to the public rapidly."

In the future, the IT group will take advantage of the infrastructure's performance and flexibility to introduce new, self-service capabilities. "As we develop a more service-oriented architecture, we can provide end users with the tools and capabilities that they need to get the information themselves," says Clark. "We can get out of the report-writing business and provide data more directly to the people who need it."

Facilitating Incremental Scalability

The new environment also helps the IT group support continuing business growth. "It is very difficult to anticipate growth in

this field. But as the economy grows, new companies are created, and new national infrastructure projects are launched, there will be more debt issued. We must be prepared to provide ratings," says Clark. "In the past, we would have needed to make a major technology investment to support growth, and there was no guarantee we would use all of the resources acquired. With a Linux environment running on servers using Intel Xeon processors, we have the flexibility and cost-effective scalability to expand the environment incrementally, as needed."

Reducing Costs and Fostering Reinvestment

The migration should help Moody's Investors Service reduce the costs of running the infrastructure and create opportunities to provide new services. "We expect to see significant cost savings by moving to an Intel platform and adopting more open-source applications," says Clark. "We anticipate savings of 10 percent by the end of next year and up to 25 percent after the migration is complete. We can reinvest those savings in additional changes. Like many businesses today, we are eager to shift money from maintaining the status quo to supporting new, strategic projects that will benefit our company and our customers."

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